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Spiders from the Northernmost Areas of Hokkaido, Japan

By

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The faunistical study of spiders in Hokkaido, the northernmost main island of Japan, has been poorly accomplished in comparison with that in Honshu and Kyushu. Two hundred sixty-five species of spiders were listed by YAGINUMA (1977) from Hokkaido, but these may only be about one-third of the estimated number of the species really occurring there. Besides, most records were made on the basis of specimens collected in the central and southern parts of the island.

With the recent progress of the researches made by Russian arachnologists, spiders of various families from the neighboring regions of Hokkaido, namely Siberia, Sakhalin, Kamchatka and the Kurile Islands, have been studied on a reliable basis (ESKOV, 1980-, TANASEVITCH, 1987-, MARUSIK, 1986-, OVTSHARENKO & MARUSIK, 1988, ZYUZIN & MARUSIK, 1989, WESOŁOWSKA & MARUSIK, 1990, MARUSIK & CUTLER, 1989, ONO, MARUSIK & LOGUNOV, 1990, MIKHAILOV, 1990-, LOGUNOV & MARUSIK, 1990, and many others). Lying in the northeastern edge of Eurasia, Hokkaido possesses a great significance from the viewpoint of faunistics and zoogeography of spiders.

In the course of the Synthetic Researches on the Natural History of the Japanese Islands made by the National Science Museum, Tokyo, the present authors carried out a research trip to the northernmost part of Hokkaido in July 1990 in order to collect materials for the faunistical and zoogeographical studies of spiders in Hokkaido. During the research, about 2,400 individuals of spiders were collected in various places selected. Though zoogeographical analysis has not been sufficiently performed with these materials, some important taxonomical results, including discovery of some new species, were obtained. This paper reports these results as well as the

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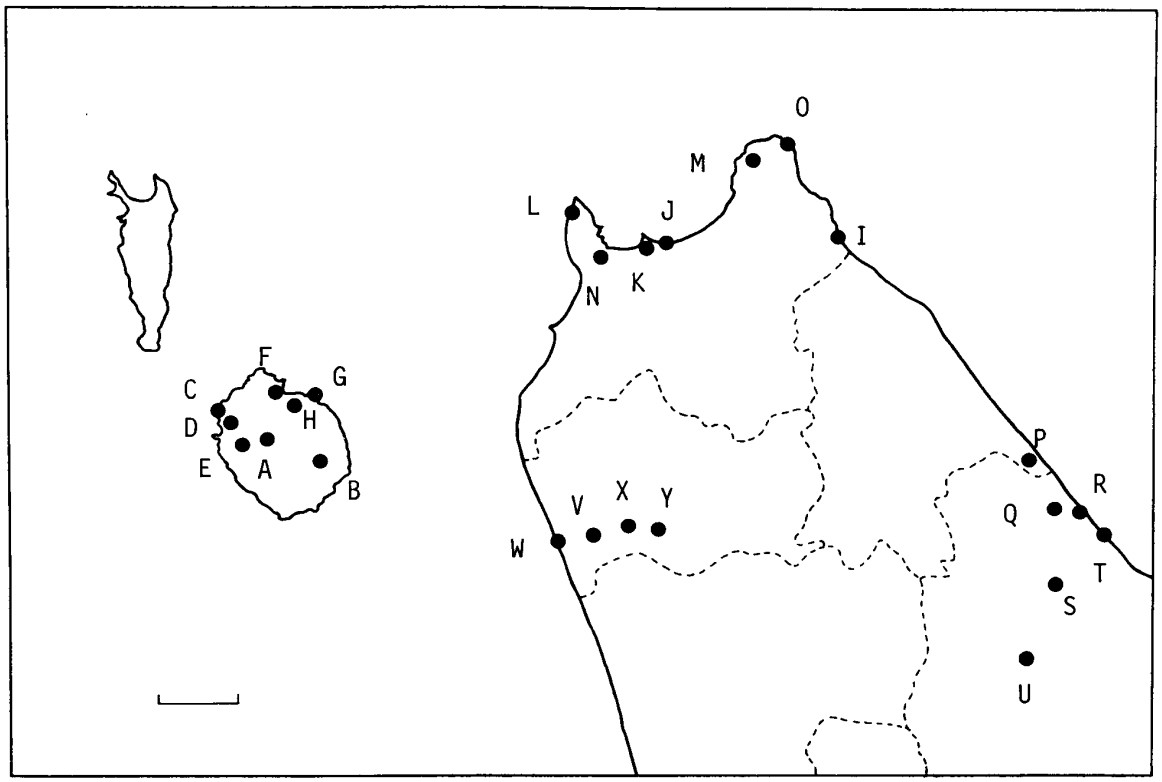

Fig. 1. Collecting sites of the 1990 survey (alphabetical signs are explained in the text; upper line of the frame, 45°40′N, bottom, 44°50′N, left, 140°50′E, right, 142°30′E; scale: 10 km).

species list of spiders collected during the present research.

All the type specimens of the new species to be described in the present paper are deposited in the collection of the National Science Museum (Natural History), Tokyo.

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Materials and Methods

All the specimens used in this paper with the exception of those for comparison were collected by the present authors from 10th to 18th July 1990 in the selected areas of the northernmost part of Hokkaido. The collecting sites plotted on Fig. 1 are presented in the alphabetical signs as follows: A–H, Rishiri Island; I–O, Wakkanai-shi; P, Sôya-gun; Q–U, Esashi-gun; V–Y, Teshio-gun. —A, Mt. Rishiri, W slope, 400–450 m alt., forest; B, Oniwaki, 250–300 m alt., forest; C, Sakaehama, seashore; D, Tanetomi-chô, 20–40 m alt., shrubs and grasses; E, Kutsugata, near Kamuipon-yama, 100–120 m alt., forest; F, Oshidomari, 60 m alt., forest; G, Notsuka, seashore; H, Himenuma, 120–140 m alt., forest around the lake; I, Kami-naefutoro, seashore; J, Koetoi, sandy beach; K, Koetoi to Lake Ônuma, 20–40 m alt., forest, grassland and

shores of the lake; L, Noshappu-misaki, seashore; M, Sôya, 40-60 m alt., forest; N, Midori, 20-40 m alt., forest; O, Sôya-misaki, seashore; P, Mokeuni-numa, Asajino, Sarufutsu-mura, 10 m alt., meadow; Q, Yamagaru, Hamatonbetsu-chô, 20 m alt., shrubs and grasses; R, Beniya-genseikaen, Hamatonbetsu-chô, 0-10 m alt., bog; S, Shimotonbetsu, Hamatonbetsu-chô, 10-20 m alt., river-side; T, Tonbetsu, Hamatonbetsu-chô, seashore; U, Nakatonbetsu-chô, around the caves, 140-160 m alt., forest; V, Wakkanai-shi, 10-30 m alt., forest; W, Wakkasakanai, sandy beach; X, Nishitoyotomi, Toyotomi-chô, 0-10 m alt., moor; Y, Toyotomi-chô, 10-30 m alt., forest and cultivated land.

The spiders were collected from trees, shrubs, low herbs and leaf-litters by sweeping, beating and sifting methods as well as by hand sorting. About 2,400 individuals of spiders were obtained. They were preserved in 75 % ethyl alcohol and identified into the specific level as far as possible. However, not only many unidentified juvenile specimens but also some adult ones were left for further taxonomical studies. CHIKUNI's publication (1989) was very useful for identification.

Results of the Research

A total of 168 species from 23 families of spiders was recognized in the present material. A list of the species with the localities and the data on the number of individuals, sex and maturity will be given in Table 1.

Table 1. Species of spiders collected from the northernmost part of Hokkaido (species with asterisks are the ones hitherto recorded by previous authors).

Families/Species	Localities and number of specimens
Antrodiaetidae	
Antrodiaetus yesoensis (UYEMURA, 1942)	K (1 juv.), Q (4♀ 2 juv.), Y (7♀1♂ 5 juv.)
Amaurobiidae	
Amaurobius sp.	C (10♀ 5 juv.)
Callobius hokkaido LEECH, 1971*	B (1♀), E (1 juv.), S (1 juv.), U (1♀ 4 juv.)
Cybaeopsis typicus STRAND, 1907	A (7 juv.), B (4 juv.), F (6 juv.), H (6 juv.), N (1 juv.), U (6 juv.)
Dictynidae	
Lathys sp.	E (2♀)
Dictyna foliicola BÖSENBERG et STRAND, 1906	A (10♀ 2 juv.), E (5♀ 1 juv.), H (2♀), N (3♀1♂)
Uloboridae	
Uloborus yesoensis (S. SAITO, 1934)	U (1♀), Y (1♀)
Pholcidae	
Pholcus opilionoides (SCHRANK, 1781)*	F (7♀7♂ 2 juv.), K (1♀4♂ 1 juv.)
Theridiidae	
Dipoena castrata BÖSENBERG et STRAND, 1906	Y (1♀1♂)
D. punctisparsa YAGINUMA, 1967*	A (1♀), F (1♀1♂), H (2♀1♂), K (20♀3♂)
D. musterina (SIMON, 1888)	A (1♀ 1 juv.), E (3♀1♂ 2 juv.), F (2♀3♂ 1 juv.), H (2♀ 8♂ 1 juv.), N (3♀7♂ 2 juv.)
D. yoshidai ONO, sp. nov.	K (1♀1♂), N (1♂ 1 juv.)
Achaearanea angulithorax (BÖSENBERG et STRAND, 1906)	E (1♂), F (1♀), G (1♀), H (1♂ 3 juv.), K (1♀ 2 juv.), U (1♂)

Table 1 (continued).

Families/Species	Localities and number of specimens
A. tabulata LEVI, 1980	A (3♀1♂), B (2♀2♂), D (1♀1♂), E (1♂), F (1♀), H (4♀2♂), K (1♀), L (1♀), M (1♂ 1 juv.), Q (1♀), U (3♀), Y (1♀)
A. culcivora (BÖSENBERG et STRAND, 1906)	A (1♀1♂ 1 juv.), B (9♀13♂ 3 juv.), E (3♀3♂ 1 juv.), F (7♀4♂ 1 juv.), G (1♂), H (10♀2♂ 1 juv.), K (5♀9♂ 2 juv.), N (2♀3♂), V (1♀), Y (1♀)
A. tepidariorum (C. KOCH, 1841)*	A (4♀3♂), B (1♀2♂), E (1♂), F (1♂), H (2♀2♂ 1 juv.), K (2♀ 1 juv.), L (1♀), M (1♀), Q (1♀), T (1♀), U (2♀ 1 juv.), Y (3♀1♂)
A. riparia (BLACKWALL, 1834)	A (1♂), B (3♀2♂), E (1♀), K (1♂), N (1♀1♂), Q (1♂), U (1♂)
Theridion bimaculatum (LINNÉ, 1767)	C (9♀ 2 juv.), G (9♀1♂), K (12♀), M (2♀1♂), Q (6♀), Y (15 juv.)
T. pictum (WALCKENAER, 1802)	F (1♀)
T. subadultum (BÖSENBERG et STRAND, 1906)*	K (1♀2♂), Y (1♀)
T. pinastri L. KOCH, 1872*	H (1♀), N (1♂ 1 juv.), Q (1♂)
T. lyricum WALCKENAER, 1841	B (3♀), F (1♀), K (2♀)
T. yonohamense BÖSENBERG et STRAND, 1906	U (3♀)
T. chikunii YAGINUMA, 1960	F (1♀)
T. nigrolimbatum YAGINUMA, 1972	A (2♀2♂), B (1♂), E (10♀), F (1♀), K (1♀), N (11♀8♂ 1 juv.), Y (1♀)
T. takayense S. SAITO, 1939	U (5♀)
T. rapulum YAGINUMA, 1960*	A (3♀1♂), B (1♀3♂), E (1♀), H (6♀3♂), N (8♀2♂)
T. sterninotatum BÖSENBERG et STRAND, 1906	H (4♀), K (4♀), Y (1 juv.)
T. sp.	N (7♀3♂)
Chrysso punctifera (YAGINUMA, 1960)*	B (2♀), H (1♀)
Anelosimus crassipes BÖSENBERG et STRAND, 1906*	E (1♀1♂), F (2♀), H (1♂), K (1♂), N (1♀ 1 juv.)
Stemmops nipponicus YAGINUMA, 1969*	H (1♀), K (1♀)
Episinus affinis BÖSENBERG et STRAND, 1906	F (1♀2♂), N (2♀1♂)
E. kitazawai YAGINUMA, 1958*	N (1♀1♂)
E. mirabilis (BÖSENBERG et STRAND, 1906)	H (1♂)
Phoroncidia pilula (KARSCH, 1879)	E (2♀ 1 juv.), H (1 juv.)
Crustulina guttata (WIDER, 1834)	K (1♀)
Enoplognatha dorsinotata BÖSENBERG et STRAND, 1906	A (2 juv.), K (3♀), X (1♀), Y (4♀1♂ 1 juv.)
Robertus sibiricus ESKOV, 1987	A (3♀3♂ 2 juv.)
Argyrodes saganus (DÖNITZ et STRAND, 1906)	E (2♀), H (2♂), N (1♂)
Linyphiidae	
Walckenaeria nishikawai H. SAITO, 1986	A (30♀2♂), B (1♀1♂)
W. saitoi ONO, sp. nov.	A (1♀2♂), B (12♀), H (1♀2♂), N (1♀)
Ummeliata angulituberis (OI, 1960)	K (1♀), Y (3♀)
U. osakaensis (OI, 1960)*	A (4♀), G (4♀ 1 juv.), K (6♀)

Table 1 (continued).

Families/Species	Localities and number of specimens
Dicymbium salaputium H. SAITO, 1986	A (3♀)
Gnathonarium exsiccatum (BÖSENBERG et STRAND, 1906	K (1♀)
Gonatium nipponicum MILLIDGE, 1981*	A (1♀), B (1♀)
Pocadicnemis pumila (BLACKWALL, 1841)	F (1♀)
Collinsia inerrans (O. PICKARD-CAMBRIDGE, 1885)	A (1♀1♂), J (1♀), Y (4♀)
C. ezoensis (H. SAITO, 1986), comb. nov.	U (2♀1♂ 4 juv.)
Erigone hakusanensis OI, 1964	A (1♀1♂), C (1♂), G (1♀), H (1♂), J (2♀), K (2♀2♂), O (1♀), X (1♀1♂), Y (37♀18♂ 4 juv.)
Erigonidium nigriterminorum OI, 1960	A (3♀1♂), B (1♀), E (7♀), H (8♀1♂), K (6♀), N (2♀)
Asperthorax sp.	F (1♀)
Strandella quadrimaculata (UYEMURA, 1937)	N (3♀)
Caviphantes pseudosaxetorum WUNDERLICH, 1979	K (1♂)
Oia imadatei (OI, 1964)	H (11♀)
Wubanoides septentrionalis (OI, 1960)*	H (1♀), K (1♀1♂), U (1♀)
Ostearius melanopygius (O. PICKARD-CAMBRIDGE, 1879)	Y (1♂)
Meioneta nigra OI, 1960	U (1♀ 1 juv.), Y (4♀1♂)
M. nodosa OI, 1960	H (1♀)
M. projecta OI, 1960	F (1♀)
M. flavipes ONO, sp. nov.	H (1♂)
M. sp.	K (1♀)
Centromerus terrigenus YAGINUMA, 1972	A (1♂), K (1♀), Y (1♀)
Oreonetides shimizui (YAGINUMA, 1972)	H (1♀)
Bathyphantes japonicus OI, 1960	N (1♀)
Floronia bucculenta (CLERCK, 1758)	A (1 juv.), K (1 juv.), Y (2 juv.)
Labulla sp.	N (1♀ 2 juv.)
Lepthyphantes cericeus (S. SAITO, 1934)*	A (1 juv.), N (6 juv.)
Neolinyphia angulifera (SCHENKEL, 1953)*	A (7♀1♂), B (4♀), N (5♀), U (1♀)
N. japonica (OI, 1960)	B (1 juv.)
Prolinyphia emphana (WALCKENAER, 1873)*	A (3♀5♂ 2 juv.), B (23♀26♂ 5 juv.), E (8♀5♂ 2 juv.), H (32♀17♂ 5 juv.), K (4♀2♂ 1 juv.), N (8♀9♂ 5 juv.), T (1♂), U (6♀2♂), V (1 juv.), X (1♂), Y (4♀3♂)
P. limbatinella (BÖSENBERG et STRAND, 1906)*	A (4 juv.), U (1 juv.)
P. radiata WALCKENAER, 1841*	V (1♀)
Linyphia montana (CLERCK, 1758)*	B (1♀), G (1♀), K (2♀), U (1♀)
L. sp. [nec *oidedicata* (HELSDINGEN, 1969)*]	A (4♀ 1 juv.), K (1♂), Q (1♀2♂), U (3♀)
Mimetidae	
Ero japonica BÖSENBERG et STRAND, 1906	F (1♀)
Theridiosomatidae	

Table 1 (continued).

Families/Species	Localities and number of specimens
Ogulnius pullus BÖSENBERG et STRAND, 1906	A (3♀), E (2♀1♂ 3 juv.)
Theridiosoma epeiroides BÖSENBERG et STRAND, 1906	N (5♀1♂), U (2♂)
Mysmenidae	
Mysmenella jobi (KRAUS, 1967)	K (1♂)
Tetragnathidae	
Metleucauge yunohamensis (BÖSENBERG et STRAND, 1906)*	F (1♀), L (1♀), N (4♀1♂), U (1♀)
Meta menardii (LATREILLE, 1804)*	H (1 juv.), Q (1 juv.), U (2♀ 20 juv.)
Tetragnatha caudicula (KARSCH, 1879)	K (1♀)
T. praedonia L. KOCH, 1878	F (1♀), H (12♀5♂ 1 juv.), K (2♀3♂ 4 juv.), N (2♂), Q (1♂), U (1 juv.), Y (1♂ 1 juv.)
T. extensa (LINNÉ, 1758)	K (1♀), N (1♀1♂)
T. pinicola L. KOCH, 1870*	A (1 juv.), B (7♀5♂), E (1♂), F (1♂), H (4♀3♂ 2 juv.), K (5♀8♂ 1 juv.), N (7♀3♂), V (1♀), Y (1♀)
T. yesoensis S. SAITO, 1934*	A (1♀8♂ 1 juv.), B (3♀8♂ 1 juv.), E (4♀5♂ 1 juv.), H (10♀10♂ 1 juv.), K (2♀5♂ 1 juv.), N (5♀5♂), R (2♀), Y (1♂)
T. squamata KARSCH, 1879*	H (3♀5♂), K (1♀), M (1 juv.)
Pachygnatha clercki SUNDEVALL, 1823	K (1 juv.)
Araneidae	
Hypsosinga sanguinea (C. KOCH, 1845)*	K (2♀ 1 juv.)
Araneus ventricosus L. KOCH, 1878*	A (1♀), B (2 juv.), C (1♀), E (1♀), F (3♀ 5 juv.), H (2♀), K (5♀5♂ 7 juv.), Q (1 juv.), R (1♀1♂), V (1♀), Y (1♀ 1 juv.)
A. macacus UYEMURA, 1961	A (1♀), E (1 juv.), H (1♂)
A. ishisawai KISHIDA, 1928*	H (1 juv.), K (1 juv.), U (1 juv.)
A. marmoreus CLERCK, 1758	K (1 juv.), S (2♀ 1 juv.), U (6♀1♂), V (1♀ 2 juv.)
A. nordmanni (THORELL, 1870)	B (1♂)
A. diadematus CLERCK, 1758*	C (3 juv.), K (1♀1♂ 1 juv.)
A. pinguis (KARSCH, 1879)*	Q (1 juv.)
A. tsuno YAGINUMA, 1972*	E (1 juv.), K (1♀ 1 juv.)
A. cornutus CLERCK, 1758*	A (1♀), G (3 juv.), H (6♀1♂ 12 juv.), K (9♀4♂ 7 juv.), L (3♀), M (1 juv.), N (1 juv.), Q (5♀2♂ 1 juv.), R (1♀ 1 juv.), S (1♀), V (1 juv.)
A. fuscocoloratus BÖSENBERG et STRAND, 1906*	H (1♀), K (4♀), N (2♀), Q (1♀)
A. sp. [*triguttatus*: YAGINUMA, 1960, et al. (nec FABRICIUS, 1775)]	A (1♀ 3 juv.), B (1 juv.), K (2♀), N (3♀1♂), Y (1♀)
Araniella sp. [*Araneus displicatus*: YAGINUMA, 1960, et al. (nec HENTZ, 1847); *Araneus cucurbitinus*: YAGINUMA, 1960, et al. (nec CLERCK, 1758)]*	A (1♀1♂ 9 juv.), B (2♀3♂ 3 juv.), E (1♂), H (2♀2♂), N (3♀2♂)

Table 1 (continued).

Families/Species	Localities and number of specimens
Cyclosa sp. [*ginnaga*: CHIKUNI, 1989 (nec YAGINUMA, 1959)]	A (4♀), E (3♀), F (1 juv.), H (2♀), N (2♀4♂), U (7♀), V (4♀), Y (1♀)
C. laticauda BÖSENBERG et STRAND, 1906	F (1♀)
Neoscona adianta (WALCKENAER, 1802)*	C (3 juv.), K (1 juv.), V (1 juv.)
Pronous minutus (S. SAITO, 1939)*	A (4♀2♂), B (1♀2♂), E (1♀), H (1♀), K (8♀), N (5♀3♂ 1 juv.)
Zilla sachalinensis (S. SAITO, 1934)*	A (1♀1♂ 1 juv.), B (5♀1♂ 1 juv.), E (1♀), F (1♂), K (7♀1♂ 1 juv.), N (5♀1♂ 1 juv.), U (1♀), V (1♀), Y (1 juv.)
Agelenidae	
Agelena opulenta L. KOCH, 1878*	A (1 juv.), Y (1 juv.)
Coelotes interunus NISHIKAWA, 1977	G (1♀), H (1♀), K (2♀), L (1♀ 1 juv.), N (1♀), Y (1♀ 1 juv.)
Argyronetidae	
Argyroneta aquatica (CLERCK, 1758)	X (2♀1♂ 4 juv.)
Desidae	
Paratheuma shirahamense (OI, 1960)	G (3 juv.)
Lycoside	
Lycosa ishikariana (S. SAITO, 1934)	I (1♀), T (6♀ 6 juv.), W (11♀ 8 juv.)
Trochosa ruricola (DE GEER, 1778)*	K (6♀1♂ 3 juv.), O (1♀), Q (1♀)
Pirata piraticus (CLERCK, 1758)	Q (1♀), V (1♀)
P. piratoides (BÖSENBERG et STRAND, 1906)	S (1♀), Y (4♀1♂)
Xerolycosa nemoralis (WESTRING, 1861)*	A (1♂), H (1♀), Q (2♀), T (1♀), X (3♀1♂), Y (3♂)
Alopecosa pulverulenta (CLERCK, 1758)	B (1 juv.), K (1♀ 4 juv.), M (1♀), Q (1 juv.), U (1 juv.)
A. virgata (KISHIDA, 1909)	Y (1♀)
Pardosa lugubris (WALCKENAER, 1802)*	B (1♀ 1 juv.), K (2♀ 1 juv.), Q (2♀), T (1♀), U (1♀), Y (7♀)
P. laura KARSCH, 1879*	B (1 juv.), E (1♀), F (2♀)
P. hokkaido TANAKA et SUWA, 1986	E (1♀)
P. diversa TANAKA, 1985	A (4♀)
P. brevivulva TANAKA, 1975	A (1♀)
P. astrigera L. KOCH, 1878	B (1♀), G (1♀), J (1♀), K (3♀), L (2♀), M (1♀), O (1♀), Q (1♀), S (1♀), Y (1♀)
Clubionidae	
Phrurolithus claripes (DÖNITZ et STRAND, 1906)	B (1♀), Y (1♀1♂)
Clubiona amurensis MIKHAILOV, 1990	H (1♀)
C. kurilensis BÖSENBERG et STRAND, 1906	K (2♂ 2 juv.), N (1♀ 1 juv.), Y (3♂ 1 juv.)
C. tsurusakii HAYASHI, 1987	N (2♂)
C. sapporensis HAYASHI, 1986*	B (1♀), D (1♀1♂), H (1♀), K (2♀1♂), L (1♀ 1 juv.), N (1♀1♂), O (3♀), Q (4♀), T (3♀), V (1♀)
C. kunashirensis MIKHAILOV, 1990	B (1♂), N (1♂)

Table 1 (continued).

Families/Species	Localities and number of specimens
C. yagata YAGINUMA, 1972*	H (11♀1♂), P (2♀), Q (13♀)
C. ezoensis HAYASHI, 1987	A (1♀1♂), H (4♀3♂), K (1♀)
C. jucunda (KARSCH, 1879)*	B (1♂), E (1 juv.), H (1♀ 1 juv.)
C. japonica L. KOCH, 1878	B (1♀), H (2♀), N (1♀1♂)
C. vigil KARSCH, 1879*	F (1♂), H (3♀1♂ 2 juv.), N (1 juv.), Y (1♀)
Chiracanthium erraticum (WALCKENAER, 1802)*	C (1♀), D (2 juv.), H (1♂), K (1♀), Q (7♀)
Ch. japonicum BÖSENBERG et STRAND, 1906*	F (1♂), K (1 juv.), N (2 juv.), Q (1♀), V (1♀)
Anyphaenidae	
Anyphaena pugil KARSCH, 1879	E (1♀), H (1 juv.)
Zoridae	
Zora spinimana (SUNDEVALL, 1833)*	M (1 juv.), U (1♀)
Gnaphosidae	
Zelotes asiaticus (BÖSENBERG et STRAND, 1906)	B (1♀ 1 juv.), U (1♀)
Z. sp.	K (1♀)
Callilepis nocturna (LINNÉ, 1758)	K (1♀ 2 juv.), Q (3♀)
Kishidaia albimaculata (S. SAITO, 1934)*	B (1 juv.), Y (1♀)
Philodromidae	
Tibellus oblongus (WALCKENAER, 1802)*	A (1 juv.), B (1♂ 1 juv.), D (1♀1♂), G (1♂), K (3♀3♂ 2 juv.), L (1♀), M (1♀ 1 juv.), N (2♀1♂), Q (2 juv.), R (1♂), V (1♀)
Philodromus aureolus (CLERCK, 1758)	D (1♀), K (3♀), N (1♀ 1 juv.)
P. rufus WALCKENAER, 1826*	E (1 juv.)
P. flavidus S. SAITO, 1934	U (2♀)
Thomisidae	
Oxytate striatipes L. KOCH, 1878*	E (1♂ 6 juv.), F (1♀), H (1 juv.), K (17 juv.), N (4 juv.), Q (1♂), S (1♂), V (2 juv.), Y (1 juv.)
Tmarus rimosus PAIK, 1973	A (1♀ 1 juv.), B (2♀), E (2♀), F (1 juv.)
Xysticus ephippiatus SIMON, 1880	F (1♂), L (1♀)
X. kurilensis STRAND, 1907	K (3♀4♂), Y (1♀1♂ 1 juv.)
X. bifidus PAIK, 1973	Y (1♀)
Oxyptila sincera KULCZYŃSKI, 1926	H (2 juv.)
Lysiteles coronatus (GRUBE, 1861)	A (1 juv.), B (4 juv.), H (1 juv.)
L. maius ONO, 1979	A (1♀)
Synaema chikunii ONO, 1983	E (2 juv.), H (1♂), V (1♂)
Misumenops tricuspidatus (FABRICIUS, 1775)*	C (2 juv.), H (4 juv.), K (1♂ 3 juv.), M (1♂ 4 juv.), N (1♂ 3 juv.), Q (1♂)
Diaea subdola O. PICKARD-CAMBRIDGE, 1885*	A (2♀1♂ 2 juv.), B (3♀4♂ 2 juv.), D (1♂), E (1♀ 1 juv.), H (2♀1♂), K (1♂), N (1♀)
Salticidae	
Euophrys undulatovittata BÖSENBERG et STRAND, 1906	A (1♂)

Table 1 (continued).

Families/Species	Localities and number of specimens
Heliophanus ussuricus KULCZYŃSKI, 1895	C (1♀ 1 juv.), D (1 juv.), E (1♀1♂), G (2♀), K (5♀2♂ 11 juv.), M (1♀ 1 juv.)
Marpissa dybowskii (KULCZYŃSKI, 1895)	A (1♀), K (1♀ 3 juv.), Y (1 juv.)
Pseudoicius himeshimensis (DÖNITZ et STRAND, 1906)	G (1 juv.)
Yaginumaella ususudi (YAGINUMA, 1972)*	A (3♂ 12 juv.), B (3 juv.), E (2♂ 5 juv.), H (1♀3♂ 3 juv.), K (1♀2♂ 2 juv.), N (1♂)
Plexippoides annulipedis (S. SAITO, 1939)	H (1 juv.)
Neon reticulatus (BLACKWALL, 1853)	F (1♀1♂), K (1♀)
Sitticus penicillatus (SIMON, 1895)	K (1♂)
Phintella abnormis (BÖSENBERG et STRAND, 1906)	E (1 juv.), N (1 juv.)
P. castriesiana (GRUBE, 1861)*	A (1♂ 2 juv.), B (1♂), H (2♀), K (2♀2♂ 2 juv.), N (2♀), Q (1♀), S (1♀)
(Total 168 species.)	

Discussion

From the present research areas (Fig. 1), 91 species of spiders have hitherto been recorded (S. SAITO, 1933; YAGINUMA, 1957, 1979, 1987; AKIYAMA, 1961; YAGINUMA & OHNO, 1967; KUMADA, 1979; HAYASHI, 1987). Of these, 59 were rediscovered (species name with asterisks in Table 1), while the following 33 species were not found during the present research: *Octonoba sybotides* (BÖSENBERG et STRAND, 1906), *Steatoda parvula* S. SAITO, 1933, *Theridion latifolium* YAGINUMA, 1960, *T. subpallens* BÖSENBERG et STRAND, 1906, *Nesticus yesoensis* YAGINUMA, 1979, *Walckenaeria antica* (WIDER, 1834), *Centromerus sylvaticus* (BLACKWALL, 1841), *Bathyphantes orientis* OI, 1960, *Linyphia clathrata* SUNDEVALL, 1830, *L. montana* (CLERCK, 1758), *Prolinyphia yunohamensis* (BÖSENBERG et STRAND, 1906), *Ummeliata erigonoides* (OI, 1960), *Ero furcata* (VILLERS, 1789), *Araneus patagiatus* CLERCK, 1758, *Yaginumia sia* (STRAND, 1960), *Cyclosa atrata* BÖSENBERG et STRAND, 1906, *Tetragnatha exquista* S. SAITO, 1933, *Menosira ornata* TIKUNI, 1955, *Cybaeus mellottei* (SIMON, 1886), *Tegenaria domestica* (CLERCK, 1758), *Pardosa hortensis* (THORELL, 1872), *Alopecosa aculeata* (CLERCK, 1758), *Trochosa terricola* THORELL, 1856, *T. spinipalpis* (F.O.PICKARD-CAMBRIDGE, 1895), *Zora spinimana* (SUNDEVALL, 1833), *Clubiona lena* BÖSENBERG et STRAND, 1906, *C. jucunda* (KARSCH, 1879), *Itatsina praticola* (BÖSENBERG et STAND, 1906), *Anyphaena ayshides* YAGINUMA, 1958, *Micromata virescens* (CLERCK, 1758), *Philodromus subaureolus* BÖSENBERG et STRAND, 1906, *Xysticus croceus* FOX, 1937, *Phintella linea* (KARSCH, 1879).

As shown in Table 1, 168 species (of these 77 are new to the spider fauna of the northernmost part of Hokkaido) were recognized as the results of the present research. These are the northernmost records of distribution of those species in Japan. Though the number of the species known from this area reaches a total of 200, the materials may not be sufficient for a zoogeographical analysis. However, some noteworthy species of the families Theridiidae,

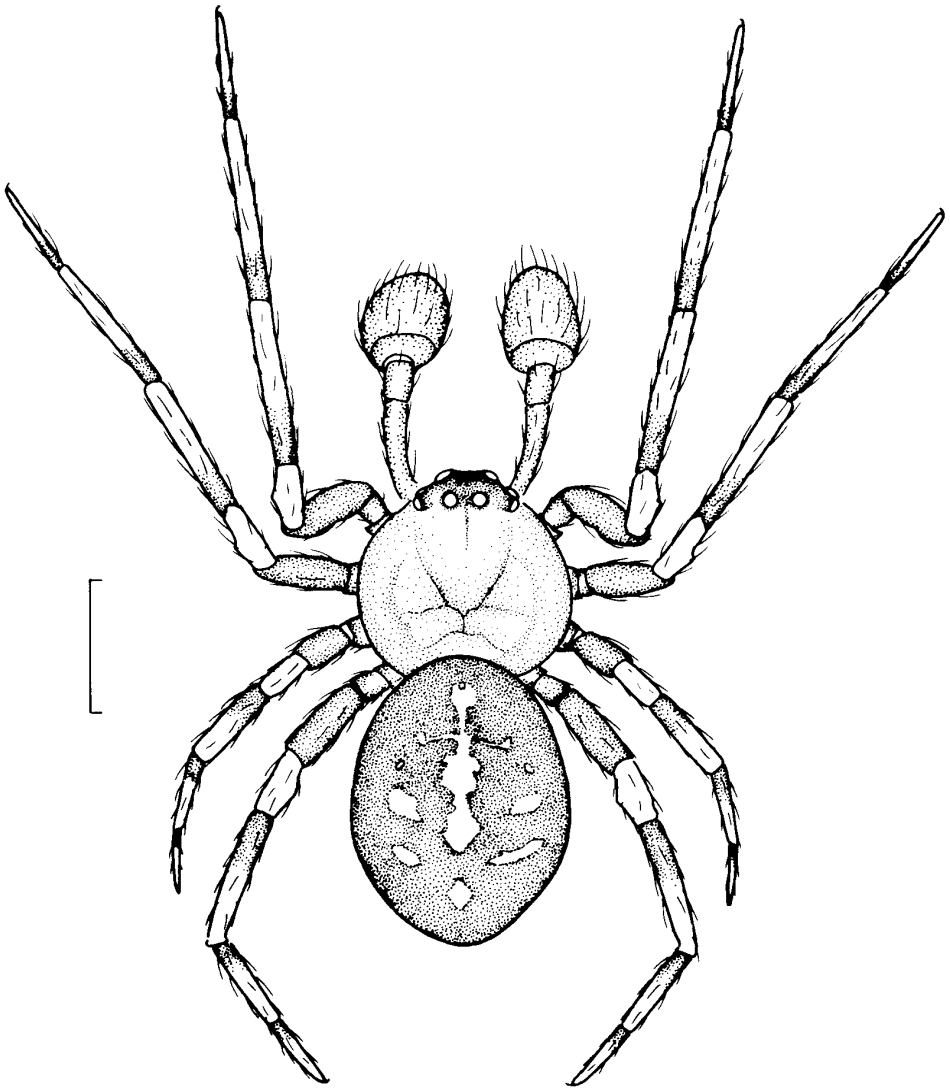
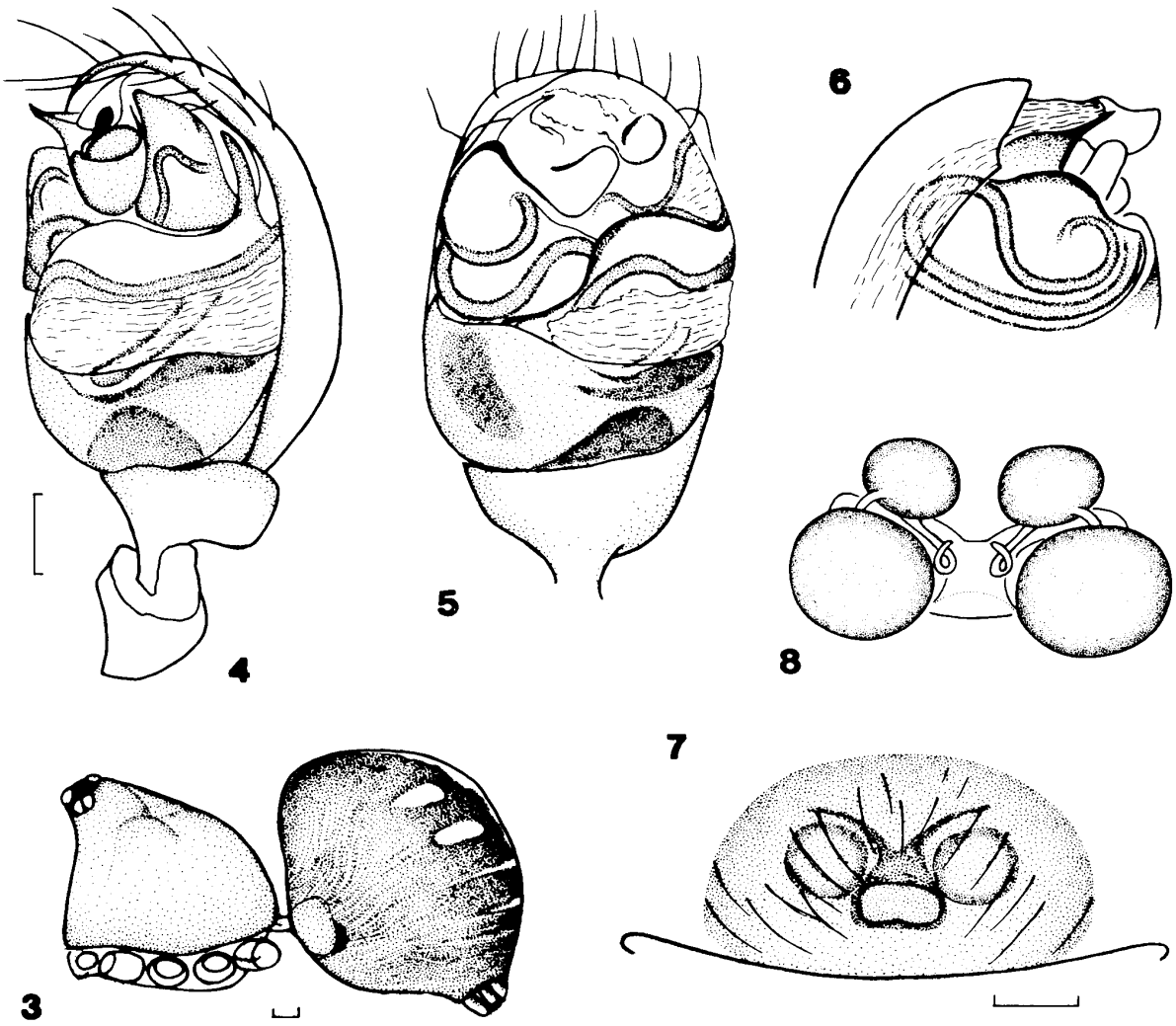


Fig. 2. *Dipoena yoshidai* ONO, sp. nov., male paratype. (Scale: 0.5 mm.)

Linyphiidae and Clubionidae, including three new species, were found out. They will be described in the following lines. Other than these, some unidentified species of the families Amaurobiidae, Dictynidae, Theridiidae, Linyphiidae and Gnaphosidae shown in Table 1 also appear new to science but are left for future studies.

Abbreviations

ALE	Anterior lateral eye or its diameter	PLE	Posterior lateral eye or its diameter
AME	Anterior median eye or its diameter	PME	Posterior median eye or its diameter
AME-ALE	Distance between AME and ALE	PME-PLE	Distance between PME and PLE
AME-AME	Distance between AMEs	PME-PME	Distance between PMEs
MOA	Median ocular area	Tm I	Position of trichobothrium on metatarsus I



Figs. 3–8. *Dipoena yoshidai* ONO, sp. nov. — 3, Body of male (holotype), 4–6, male palps, 7–8, female genitalia; 3, lateral view, 4, ventro-retrolateral view, 5,7, ventral view, 6, prolateral view, 8, dorsal view. (Scales: 0.1 mm.)

Family Theridiidae

Dipoena yoshidai ONO, sp. nov.

(Figs. 2–8)

Type series. Holotype: ♂, allotype: ♀, Koetoi, 20 m alt., Wakkanai-shi, Hokkaido, Japan, 10-VII-1990, H. ONO leg. (NSMT-Ar 2098-2099); paratype: 1♂, Midori, 20 m alt., Wakkanai-shi, Hokkaido, Japan, 11-VII-1990, H. ONO leg. (MSMT-Ar 2100).

Description. Measurement (in mm). Body length ♀ 3.15, ♂ 2.00–2.08; prosoma length ♀ 0.93, ♂ 0.93–0.95, width ♀ 0.80, ♂ 0.80–0.85; opisthosoma length ♀ 2.18, ♂ 1.18–1.28, width ♀ 1.75, ♂ 0.89–0.98; lengths of legs of allotype and holotype [total length (tarsus+metatarsus+tibia+patella+femur)] : ♀ I 3.16 (0.45+0.63+0.70+0.38+1.00), II 2.71 (0.43+0.55+0.56+0.32+0.85), III 2.51 (0.44+0.50+0.49+0.33+0.75), IV 3.32 (0.45+0.69+0.75+0.40+1.03), ♂ I 3.23 (0.41+0.68+0.73+0.38+1.03), II 2.61 (0.40+0.55+0.53+0.33+0.80),

III 2.32 (0.38+0.48+0.45+0.33+0.68), IV 3.02 (0.38+0.68+0.68+0.35+0.93).

Prosoma longer than wide (length / width ♀ 1.16, ♂ 1.09-1.19), very high in male (Fig. 3; height / width ♀ 0.63, ♂ 1.00); eyes almost equal in size, AME largest, PLE smallest, AME/AME-AME ♀ 0.83, ♂ 0.70-1.06, PME-PME/PME-PLE ♀♂ 0.83, AME and ALE close to each other, ALE and PLE almost adjacent to each other, MOA wider than long (length / width ♀ 0.85, ♂ 0.85-1.00), anterior width / posterior width ♀ 1.23, ♂ 1.11-1.17, clypeus very long (clypeus / AME-AME ♀ 2.89, ♂ 4.60-6.67). Chelicera small, without teeth, labium wider than long, sternum longer than wide (length / width ♀ 1.14, ♂ 1.09-1.10); legs without strong spines, palp of female with one claw.

Male palp as shown in Figs. 4-6.

Abdomen oval, longer than wide (length / width ♀ 1.24, ♂ 1.31-1.33).

Female genitalia as shown in Figs. 7-8.

Coloration and markings (Fig. 2). ♀ Prosoma light blackish brown, head darker, with black streaks from dorsal groove to head; chelicera and labium light blackish brown, sternum blackish brown, palps yellowish brown, legs yellowish brown, femora distally darker, tibia, metatarsi and tarsi proximally blackish brown; opisthosoma greyish white with white markings. ♂ Prosoma chestnut, head black; chelicera and labium light blackish brown, sternum chestnut; palp and legs yellowish brown, tibia, metatarsi and tarsi of legs proximally blackish brown; opisthosoma black with white markings (Fig. 2), ventral side dark grey.

Remarks. This new species is closely related to *Dipoena inornata* (O. PICKARD-CAMBRIDGE, 1861) widely distributed in Europe, but can be distinguished from the latter by having white markings on the opisthosoma. The female genitalia of the two species resemble each other in shape, but the intromittent canal is shorter in *D. yoshidai* than in *D. inornata.* The male palp of the new species is unique and different from that of the other species of the genus.

The species is dedicated to Mr. Hajime YOSHIDA, Yamagata, a specialist of the theridiid spiders in Japan.

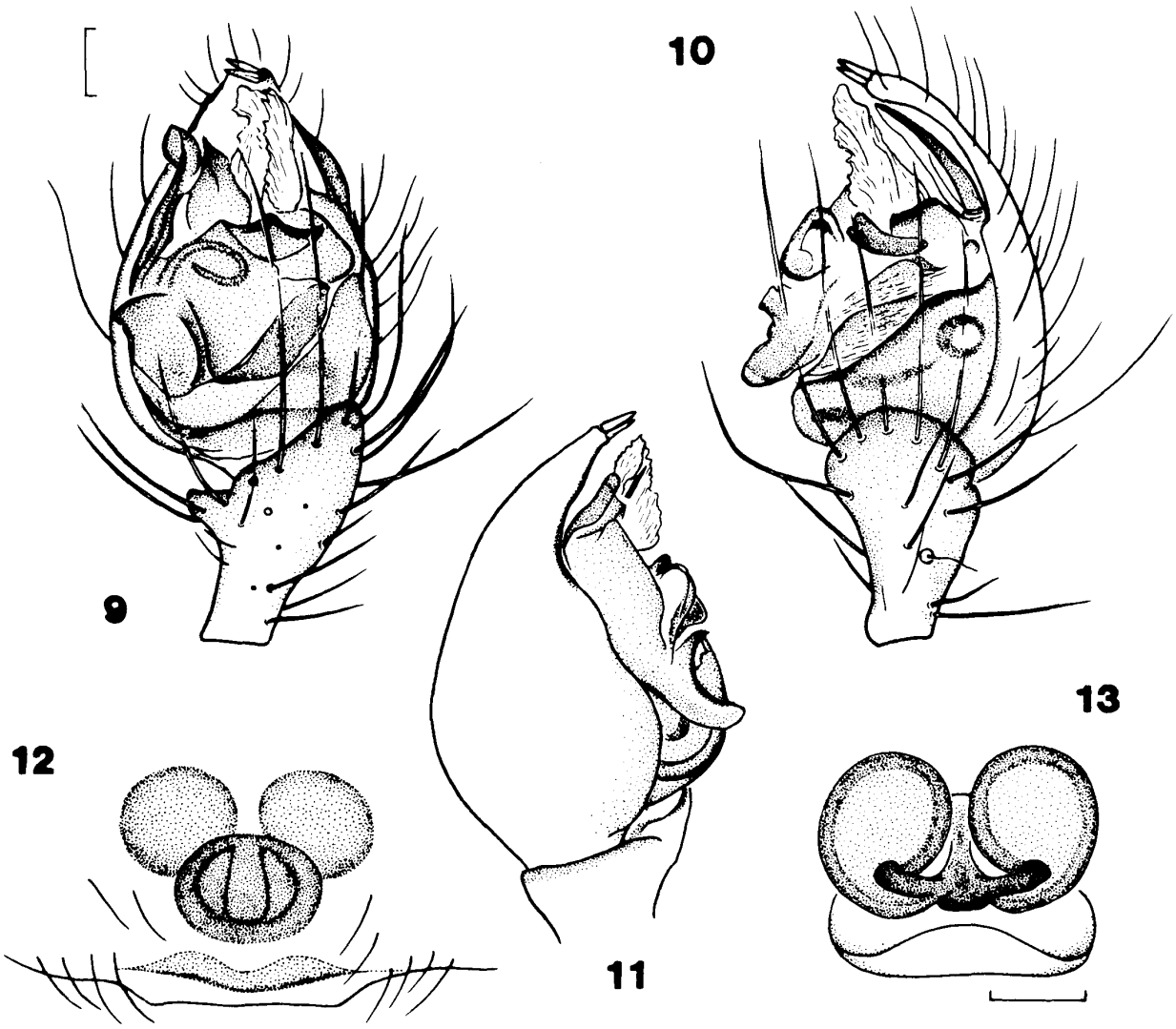
Robertus sibiricus ESKOV, 1987
(Figs. 9-13)

Robertus sibiricus ESKOV, 1987, p. 287, figs. 14-17 (♂ holotype from Krasnoyarsk area, Siberia, USSR, 23-VIII-1982, K.Y. ESKOV leg., and many ♀♂ paratypes from Krasnoyarsk, Amur and Magadan areas, Siberia, deposited in the Zoological Museum of the Moscow State University, not examined).

? *Robertus ussuricus* ESKOV, 1987, p. 289, fig. 8 (♀ holotype from Kamenushka, Maritime Prov., environs of Ussuriysk, USSR Far East, 25-30-VI-1980, V.V. BELOV leg., same depository as for the former species, not examined).

Specimens examined. 3♀3♂ 2 juv., Mt. Rishiri, W slope, 400-450 m alt., Rishiri Island, Hokkaido, Japan, 13-VII-1990, H. ONO leg. (NSMT-Ar 2096-2097).

Notes. Some specimens of a theridiid spider of the genus *Robertus* O. PICKARD-CAMBRIDGE, 1879, were collected from the forest litter at 400-450 m in elevation of Mt. Rishiri. They were identified with *R. sibiricus* ESKOV, 1987, widely distributed in Siberia from the Sayan Mts. through Amur area to Kolyma area. Though the present authors did not examine any Siberian specimens, they were unable to find any discriminating features on sexual organs



Figs. 9–13. *Robertus sibiricus* Eskov, 1987. — 9–10, Male palps, 11–12, female genitalia; 9, 11, ventral view, 10, retrolateral view, 12, dorsal view. (Scales: 0.1 mm.)

between Japanese specimens (Figs. 9–13) and the original illustrations given by Eskov (1987, Figs. 14–17).

The type locality of *Robertus ussuricus* Eskov, 1987, described in the same paper by Eskov is situated closer to Hokkaido than the distributional range of *R. sibiricus*. However, the original description of *R. ussuricus* was made only on the ♀ holotype and published without illustration of internal genitalia. Comparing descriptions and figures of the two species, the present authors found no difference that warrant their specific independency.

This is not only the first record of the species but also that of the genus *Robertus* in Japan.

Family Linyphiidae

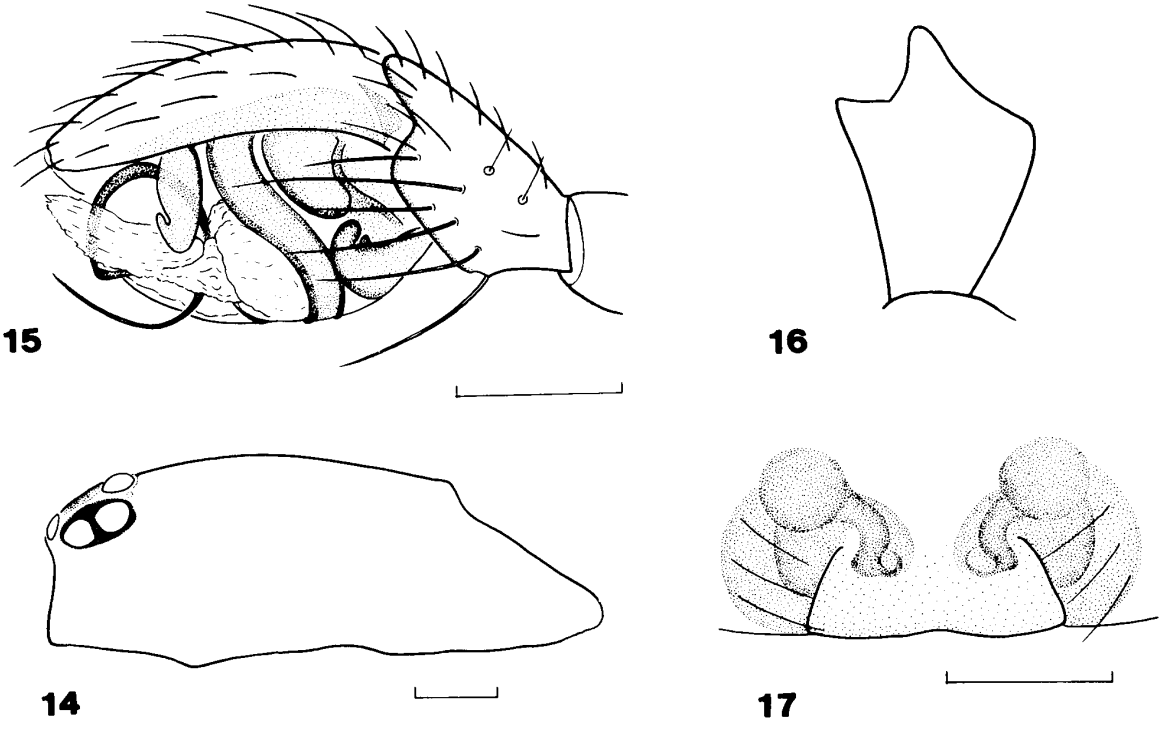
Walckenaeria saitoi Ono, sp. nov.
(Figs. 14–17)

Type series. Holotype: ♂, allotype: ♀, Kutsugata, near Kamuipon-yama, 100–120 m alt.,

Rishiri Island, Hokkaido, Japan, 13-VII-1990, K. KUMADA leg.; paratypes: 1♂, same locality and date as for the holotype, H. ONO leg., 1♂, Himenuma, 120-140 m alt., same island, 12-VII-1990, H. ONO leg., 10♀, Oniwaki, 250-300 m alt., same island, 12-VII-1990, K. KUMADA leg., 2♀, same locality and date as for the former specimens, H. ONO leg., 1♀, Midori, 20-40 m alt., Wakkanai-shi, Hokkaido, Japan, 11-VII-1990, H. ONO leg. (NSMT-Ar 2903-2909).

Description. Measurement (in mm). Body length ♀ 1.59-2.05, ♂ 1.61-1.75; prosoma length ♀ 0.68-0.75, ♂ 0.65-0.74, width ♀ 0.56-0.63, ♂ 0.55-0.60; opisthosoma length ♀ 1.15-1.40, ♂ 0.79-0.95, width ♀ 0.88-1.13, ♂ 0.64-0.70; lengths of legs of allotype ♀ and 1♂ paratype [total length (tarsus+metatarsus+tibia+patella+femur)] : ♀ I 2.25 (0.36+0.50+0.51+0.22+0.66), II 2.22 (0.35+0.49+0.50+0.22+0.66), III 1.78 (0.31+0.38+0.37+0.19+0.53), IV 2.37 (0.36+0.57+0.55+0.21+0.68), ♂ I 2.21 (0.35+0.49+0.50+0.20+0.67), II 2.17 (0.36+0.49+0.50+0.19+0.63), III 1.68 (0.28+0.39+0.35+0.18+0.48), IV 2.14 (0.34+0.51+0.50+0.19+0.60).

♀♂ Prosoma longer than wide (length / width 1.18-1.23), head neither rounded nor raised, without postocular sulci; anterior eye-row recurved, posterior one procurved, AME smaller than the others, ALE/AME 0.63-0.75, PLE/PME 1.00, AME-AME/AME-ALE 0.75-1.25, PME-PME/PME-PLE 1.13-1.33, AME/AME-AME 1.20-2.00, PME/PME-PME 0.88-1.00, clypeus slightly concave below eyes, clypeus / anterior width of median ocular area 1.25-1.50; chelicera with four promarginal and four retromarginal teeth, without stridulatory organ; sternum almost as long as wide. Tibiae I-II each with two dorsal spines (weak in male), tibiae III-IV each with one dorsal spine; metatarsus IV with a trichobothrium; Tm I 0.55-0.67.



Figs. 14-17. *Walckenaeria saitoi* ONO, sp. nov. — 14, Prosoma, 15, male palp, 16, male palpal tibia, 17, female genitalia; 14, lateral view, 15, retrolateral view, 16, dorsal view, 17, ventral view. (Scales: 0.1 mm.)

Male palp (Figs. 15-16). Tibia very simple, without strongly sclerotized apophyses, with a blunt dorsal apophysis. Embolus spiniform, long and curved, embolic membrane developed.

Female genitalia as shown in Fig. 17.

Coloration and markings. ♀♂ Prosoma yellowish brown, both the lateral margins darker, with black radiating lines; chelicerae, maxillae and labium yellowish brown, sternum light blackish brown or dark grey, legs and palps yellowish brown. Opisthosoma grey to black, frequently with five, arched horizontal white fine lines.

Remarks. This new species has such characteristics not typical for the genus *Walckenaeria,* as the low male head, undeveloped tibial apophysis of male palp, and absence of the stridulatory organ on the chelicera. It may be a representative of a new genus (H. SAITO, personal communication). Though no described species related to this new one has been known, the present author (ONO) tentatively regarded this as a *Walckenaeria* in the widest sense (cf. MILLIDGE, 1983).

The species is dedicated to Mr. Hiroshi SAITO, Yamanashi, a specialist of the linyphiid spiders in Japan.

Ummeliata osakaensis (OI, 1960)
(Figs. 18-19)

Oedothorax osakaensis OI, 1960, pl.VI, figs. 84-88 (♂ holotype and ♀ allotype from Naruo, Hyogo Pref., Japan, 15-X-1957, R. OI leg.; types lost.

Hummelia osakaensis: ESKOV, 1980 b, p. 1743.

Ummeliata osakaensis: YAGINUMA, 1986, p. 79.

[Other literature omitted.]

Specimens examined. 4♀, Mt. Rishiri, W slope, 400-450 m alt., Rishiri Island, Hokkaido, 13-VII-1990, H. ONO leg.; 4♀ 1 juv., Notsuka, seashore, Rishiri Island, 12-VII-1990, K. KUMADA leg.; 6♀, Koetoi, 20-40 m alt., Wakkanai-shi, Hokkaido, 11-VII-1990, K. KUMADA & H. ONO leg.

Notes. H. SAITO (1982) recorded this species from the Daisetsuzan Mts., central Hokkaido, and noticed that his specimens are larger than typical ones and have differently shaped opening part of the epigynum. The females in the present materials show the same characteristics as seen in the specimens from Honshu.

Dicymbium salaputium H. SAITO, 1986
(Figs. 20-21)

Dicymbium sp.: H. SAITO, 1982, p. 11, figs. 12, 16.

Dicymbium salaputium H. SAITO, 1986, p. 15, figs. 14-18 (♀ holotype and 5♀ paratypes from Mt. Kurodake, Daisetsuzan Mts., Hokkaido, 27-V-1981/27-VII-1984, 3♂ paratypes from Mt. Akadake, Daisetsuzan Mts., 16-VIII-1984, all the types N. YASUDA leg. (NSMT-Ar 1071-1073), examined). — MATSUDA, 1987, pp. 18, 26, figs. 1-3; 1988, p. 12.

Specimens examined. 3♀, Mt. Rishiri, W slope, 400-450 m alt., Rishiri Island, Hokkaido,

13-VII-1990, H. ONO leg. (NSMT-Ar 2899).

Notes. This species was known only from the Daisetsuzan Mts., central Hokkaido. ROBERTS (1987) reported that the genera *Savignia, Diplocephalus, Erigonella, Araeoncus and Dicymbium* are very closely related to one another and should almost certainly be combined into one genus.

Pocadicnemis pumila (BLACKWALL, 1841)
(Fig. 22)

Walckenaera [sic] *pumila* BLACKWALL, 1841, p. 639 (♀♂ types from England, in the British Museum (Nat. Hist.) (?), not examined).

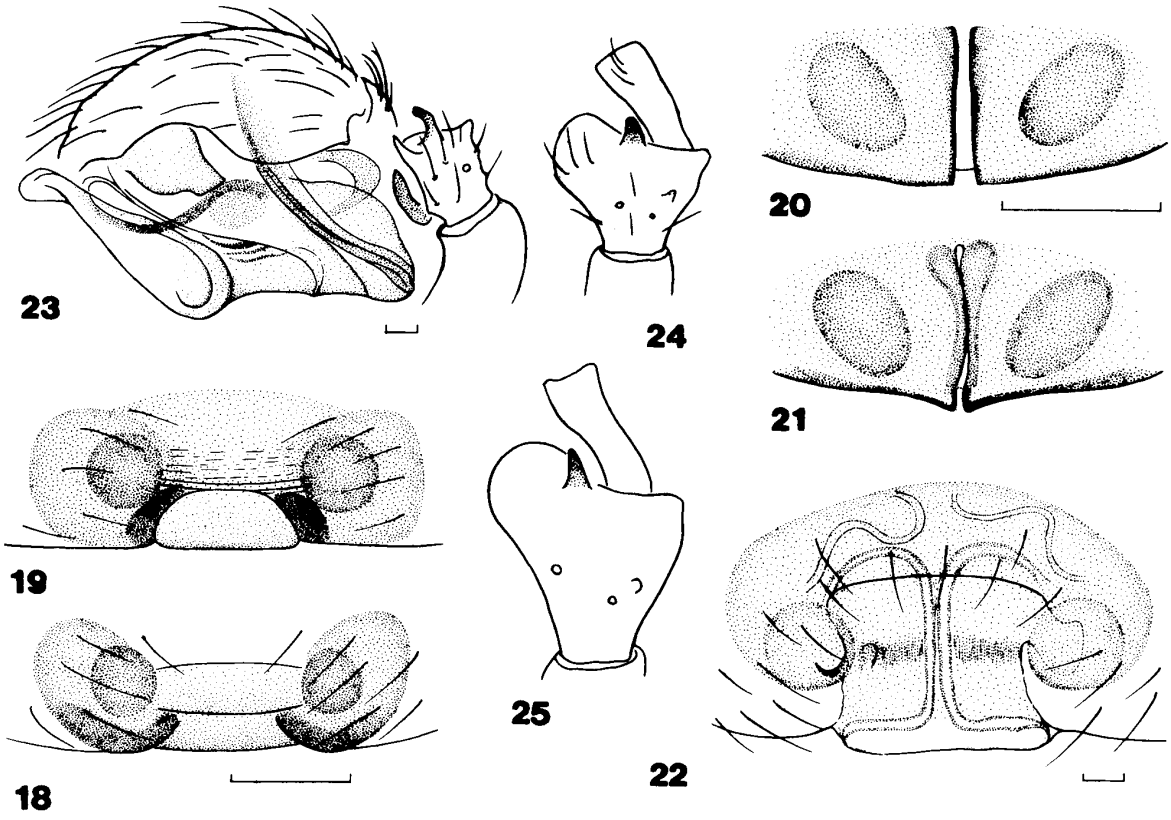
Pocadicnemis pumila: SIMON, 1884, p. 714. —SAITO & YASUDA, 1988, p. 23, figs. 1-6.

Pocadicnemis sp.: H. SAITO, 1982, p. 17, fig. 38.

[Other literature omitted.]

Specimen examined. 1♀, Oshidomari, 60 m alt., Rishiri Island, Hokkaido, 13-VII-1990, H. ONO leg. (NSMT-Ar 2898).

Notes. This species was recently recorded by SAITO and YASUDA (1988) from the Daisetsuzan Mts., Hokkaido, as being new to the Japanese fauna. In the present material one



Figs. 18-25. 18-29, *Ummeliata osakaensis* (OI, 1960); 20-21, *Dicymbium salaputium* H. SAITO, 1986; 22, *Pocadicnemis pumila* (BLACKWALL, 1841); 23-24, *Caviphantes pseudosaxetorum* WUNDERLICH, 1979; 25, *Caviphantes samensis* OI, 1960. — 18-22, Epigyna, 23, male palp, 24-25, male palpal tibiae; 18, 20-22, ventral view, 19, posterior view, 23, retrolateral view, 24-25, dorsal view. (Scales: 0.1 mm.)

female specimen of this species was found. Though it is widely distributed from Europe to the Far East, it seems rare in Japan.

Caviphantes pseudosaxetorum WUNDERLICH, 1979
(Figs. 23-24)

Caviphantes pseudosaxetorum WUNDERLICH, 1979, p. 87, figs. 1-7 (♂ holotype and 1♀ paratype from Myangdi Khola, 2,100-2,200 m alt., Dhaulagiri-Massif, Nepal, III-IV-1970, J. MARTENS leg., 1♀2♂ paratypes from Chadziou Khola near Ghasa, 2,330-2,900 m alt., Thakkhola, Napal, X-1969, all the types in Senckenberg Museum, Frankfurt am Main, not examined).

? *Caviphantes samensis*: H. SAITO, 1983, p. 50.

Specimen examined. 1♂, Koetoi, 20 m alt., Wakkanai-shi, Hokkaido, 11-VII-1990, H. ONO leg. (NSMT-Ar 2897).

Notes. H. SAITO (1983) recorded *Caviphantes samensis* OI, 1960, for the first time from Hokkaido, on the basis of some specimens collected from Sapporo and Tomakomai. That species was first described by OI (1960) from Kawachi-no-kaza-ana Cave, Taga-chô, Shiga Prefecture in Central Japan, and has frequently been collected outside caves in Honshu and Kyushu. The single specimen of *Caviphantes* obtained by the present research shows some differences as compared with the holotype of *C. samensis* (NSMT-Ar 2711) as given in Table 2, and was identified by the present authors with *Caviphantes pseudosaxetorum* described by WUNDERLICH (1979) from Nepal. WUNDERLICH discussed on the discriminating characters of the four known species of the genus, *C. samensis* (Japan), *C. pseudosaxetorum* (Nepal), *C. saxetorum* HULL, 1916 (England and Germany) and *C. dobrogica* DUMITRESCU et MILLER, 1962 (Rumania). The last-named species can be readily distinguished from the others, but the remaining three are strikingly similar to one another.

Table 2. Morphological differences between *Caviphantes pseudosaxetorum* and *C. samensis*.

	Caviphantes pseudosaxetorum 1♂ from Hokkaido	*Caviphantes samensis* holotype ♂
Body length	1.43 mm	1.75 mm
Head	low	slightly raised
PME/PME-PME	1.00	0.67
Clypeus/anterior width of MOA	0.57	1.00
Palpal tibia	short (Fig. 24)	long (Fig. 25)
Length/width of palpal tibia	0.90	1.18
Dorsal apophysis on palpal tibia	short and blunt	relatively long and pointed

Meioneta flavipes ONO, sp. nov.
(Fig. 26)

Type specimen. Holotype: ♂, Himenuma, 120-140 m alt., Rishiri Island, Hokkaido, Japan, 14-VII-1990, K. KUMADA leg. (NSMT-Ar 2896).

Description (based on the ♂ holotype; ♀ unknown). Measurement (in mm). Body

length 2.11; prosoma length 0.85, width 0.65; opisthosoma length 1.25, width 0.64; lengths of legs [total length (tarsus+metatarsus+tibia+patella+femur)] : I 4.23 (0.66+1.09+1.13+0.23+1.12), II 3.69 (0.58+0.92+0.94+0.23+1.02), III 2.72 (0.46+0.68+0.67+0.18+0.73), IV 3.60 (0.53+0.90+0.95+0.20+1.02).

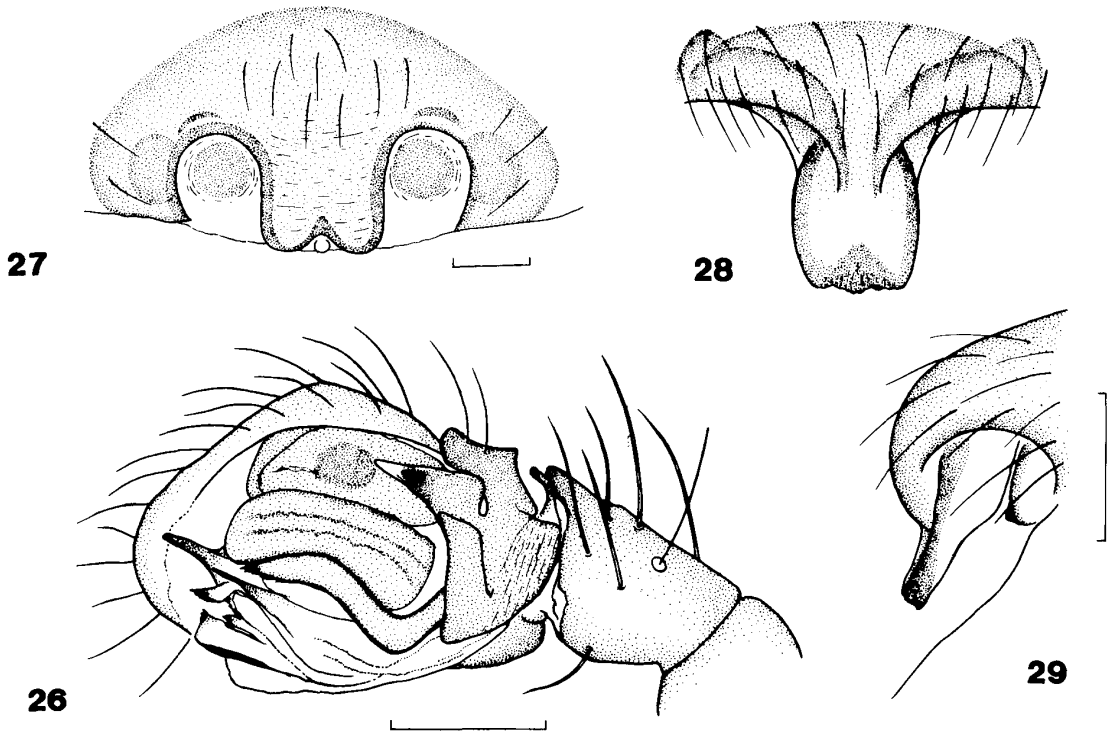
Prosoma longer than wide (length / width 1.31), anterior eye-row recurved, posterior eye-row slightly procurved, AME/ALE 0.88, PME/PLE 1.13, AME-AME/AME-ALE 0.86, PME-PME/PME-PLE 1.33, clypeus / AME-AME 3.00; chelicera with three teeth on the promargin, three denticles on the retromargin, sternum longer than wide (length / width 1.11). Tibiae I-IV each with two spines; Tm I 0.19.

Male palp (Fig. 26). Paracymbium much developed; "lamella characteristica" narrow, long and curved, distally serrated.

Coloration and markings. Prosoma brown, darker at the middle, with a black line from PME to median furrow; chelicerae, maxillae and labium dark brown, sternum brown; legs yellow, prolateral sides of tibiae IV black. Opisthosoma black, without any markings.

Remarks. This new species can easily be distinguished from all the known *Meioneta* species from Japan by the shape of male palp. The basic structure of male palp resembles that of *Meioneta mollis* (O. PICKARD-CAMBRIDGE, 1871) widely distributed in northern Europe, and the two sepcies seem closely related to each other, but the paracymbium is much more developed in *M. flavipes* than in *M. mollis,* and the Japanese species is totally different from the European one in the coloration of body and legs.

The species name is derived from the yellowish legs.



Figs. 26-29. 26, *Meioneta flavipes* ONO, sp. nov.; 27, *Meioneta* sp.; 28-29, *Oreonetides shimizui* (YAGINUMA, 1972). — 26, Male palp, 27-29, female genitalia; 26, retrolateral view, 27-28, ventral view, 29, lateral view. (Scales: 0.1 mm.)

Meioneta sp.
(Fig. 27)

Specimen examined. 1♀, Koetoi, 20 m alt., Wakkanai-shi, Hokkaido, 11-VII-1990, H. ONO leg. (NSMT-Ar 2895).

Notes. This spider possesses the peculiar epigynum typical for the subgenus *Meioneta* defined by WUNDERLICH (1973), in particular for the six European species, *M. rurestris* (C.L. KOCH, 1836), *M. beata* (O. PICKARD-CAMBRIDGE, 1906), *M. fuscipalpis* (C.L. KOCH, 1936), *M. gulosa* (L. KOCH, 1869), *M. nigripes* (SIMON, 1884) and *M. ressli* WUNDERLICH, 1973. However it was impossible to identify the present specimen with any of these European species only on the basis of the female genital structure. Other important features as well as coloration of body, and legs and palps of the present spider do not accord with those of the cited species. Though this *Meioneta* spider possibly represents a new species, it will be left undescribed until the male is collected.

Oreonetides shimizui (YAGINUMA, 1972)
(Figs. 28-29)

Drepanotylus shimizui YAGINUMA, 1972, pp. 86, 91, figs. 8-9 (♂ holotype and ♀ paratype from Kuriko-dô Cave, Yonezawa-shi, Yamagata Pref., Japan, 6-VIII-1967 / 14-V-1967, D. SHIMIZU / S. NISHIKI leg., in the Arachnological Society of Japan, Osaka, not examined).

Oreonetides lingualis H. SAITO, 1978, p. 9, figs. 1-3 (♀ holotype and many ♀♂ paratypes from Tateishi-dô Cave, Natsudomari Peninsula, Aomori Pref., Japan, 14-IX-1974, 11-VII-1975, 11-VIII-1975, 26-IX-1976 and 25-VIII-1977, Y. TAKAHASHI leg., in the Arachnol. Soc. Japan, Osaka, and in the private collection of H. SAITO, not examined).

Oreonetides shimizui: YAGINUMA, HIRASHIMA & OKUMA, 1990, p. 105.

[Other literature omitted.]

Specimen examined. 1♀, Himenuma, 120-140 m alt., Rishiri Island, Hokkaido, Japan, 14-VII-1990, H. ONO leg. (NSMT-Ar 2894).

Notes. This rare spider was first described from a cave in Tohoku District, Honshu. The present material was collected from under a stone in a rivulet flowing out from the Lake Himenuma.

This species falls into the genus *Oreonetides* STRAND, 1901, according to the key given by WIEHLE (1956). However, some resemblance was recognized in genital features between this Japanese species and *Oinia trilineata* ESKOV, 1984. This continental spider is known from the Amur area opposite beyond the Sea of Japan to Tohoku and Hokkaido, North Japan, where *Oreonetides shimizui* occurs.

Family Clubionidae

Clubiona kunashirensis MIKHAILOV, 1990
(Figs. 30-31)

Clubiona kunashirensis MIKHAILOV, 1990, p. 156 (♂ holotype from Kisliy Stream, Mendeleeva Volcano, Kunashir

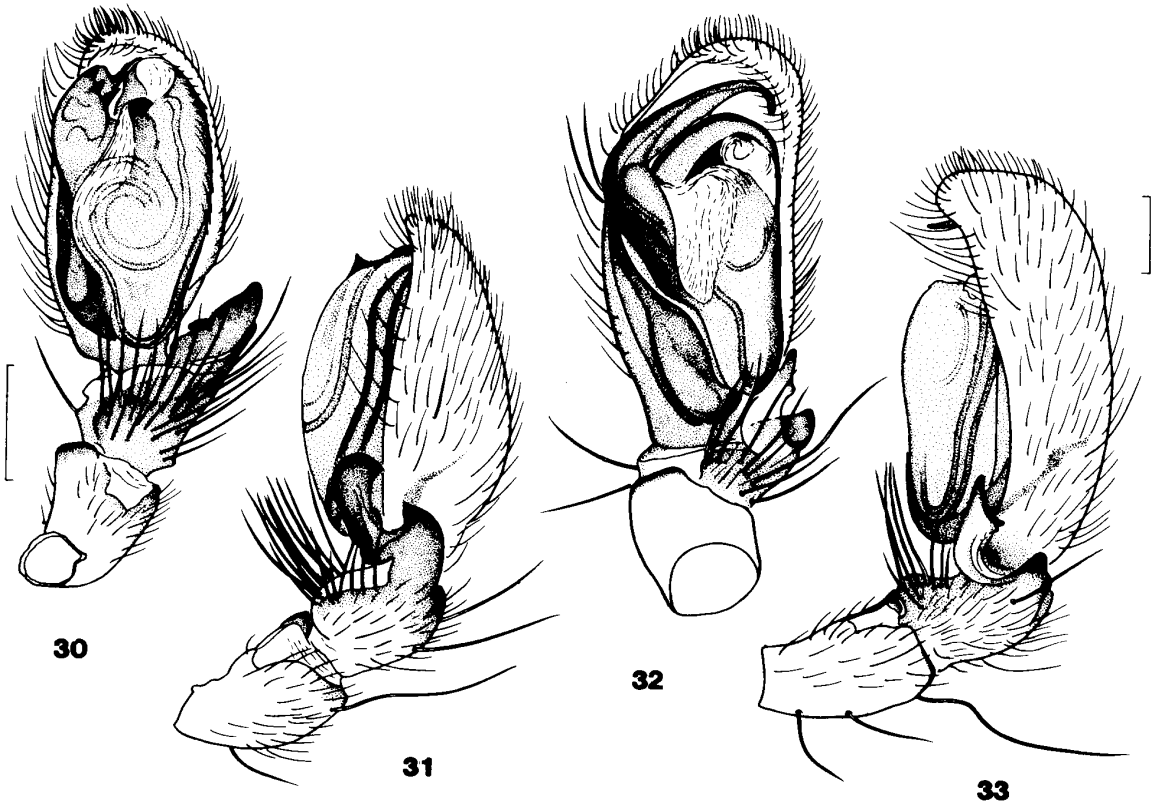
Island, Kurile Islands, Hokkaido, 4-VIII-1988, A.M. BASARUKIN leg., in the Zoological Museum of the Moscow State University, not examined).

Specimens examined. 1♂, Oniwaki, 250-300 m alt., Rishiri Island, Hokkaido, Japan, 12-VII-1990, H. ONO leg. (NSMT-Ar 2228); 1♂, Kafuka, Rebun Island, Hokkaido, 31-VIII-1981, K. KUMADA leg. (NSMT-Ar 2229); 1♂, Sounkyô, Kamikawa-chô, Hokkaido, 14-VII-1980, N. YASUDA leg. (NSMT-Ar 2230).

Notes. While ONO was preparing a description of this species on the basis of the above specimens, MIKHAILOV's (1990) paper dealing with the same species was published. His account is based upon 1♂ collected on Kunashir Island. These collecting records indicate that this species is widely distributed in Hokkaido. The female is unknown.

Clubiona yagata YAGINUMA, 1972
(Figs. 32-33)

Clubiona yagata YAGINUMA, 1972, p. 29, figs. 14-15 (♀ holotype and 1♂ paratype from Sugatami-no-ike, Mt. Daisetsu, Hokkaido, Japan, 5-VII-1970, Y. NISHIKAWA *et al.* leg. (NSMT-Ar 2231), and several ♀♂ paratypes from Daisetsu and Hidaka Mts. and Rishiri Island, Hokkaido (NSMT-Ar 2232-2233), examined); 1986, p. 179, pl. 48, fig. 8, text-fig. 3 e, p. —Hayashi, 1987, p. 36, figs. 12-13. —CHIKUNI, 1989, p. 124, figs. 10, 10 e, p, p. 225.



Figs. 30-33. 30-31, *Clubiona kunashirensis* MIKHAILOV, 1990; 32-33, *Clubiona yagata* YAGINUMA, 1972. — 30-33, Male palps; 30, 32, ventral view, 31, 33, retrolateral view. (Scales: 0.25 mm.)

Clubiona riparia: MIKHAILOV, 1990, p. 149.

Specimens examined. 11♀1♂, Himenuma, 120-140 m alt., Rishiri Island, Hokkaido, Japan, 12-VII-1990, K. KUMADA and H. ONO leg.; 2♀, Mokeuni-numa, Asajino, 10 m alt., Sarufutsu-mura, Hokkaido, 18-VII-1990, K. KUMADA leg.; 13♀, Yamagaru, 20 m alt., Hamatonbetsu-chô, Hokkaido, 18-VII-1990, K. KUMADA leg.; 1♀2♂, Nisechôra, Daisetsuzan Mts., Hokkaido, 22-VI-1984, N. YASUDA leg. — NSMT-Ar 2234-2237.

Notes. MIKHAILOV (1990) synonymized this species with *Clubiona riparia* L. KOCH, 1866, widely distributed in North America. However, the two species may be separated from each other by the shape of embolus of male palp (cf. Figs. 32-33 and DONDALE and REDNER, 1982, p. 93, figs. 166, 169), though they closely resemble each other in all the other features.

要　　約

北海道のクモ類の研究は遅れており，とくに北部地域の資料が乏しい．最近シベリアや樺太などの周辺地域のクモ類の研究調査が進展し，北海道のクモ類との密接な関連性が示唆されている．日本が位置するユーラシア東端地域のクモ相の全容を解明するためにも，北海道北部のクモ類の研究は不可欠である．

筆者らは，1990年7月，北海道北端地域および利尻島において，葉上性クモ類を中心に，さまざまな環境に生活するクモ類全般について採集調査を行った．その結果，同地域から約2,400個体の標本を得た．これらを同定し168種を確認したので目録を作成した．既知種を加えると同地域から200種以上のクモ類が記録された．これは各種の我国における北限の記録として重要なものである．

今回の材料だけでは，同地域のクモ類の生物地理学的考察は困難だが，3新種[*Dipoena yoshidai* ONO, sp. nov. ヨシダミジングモ（新称），*Walckenaeria saitoi* ONO, sp. nov. サイトウコブヌカグモ（新称），*Meioneta flavipes* ONO, sp. nov. キアシケシグモ（新称）]，2日本新記録種［*Robertus sibiricus* ESKOV, 1987 キタモリヒメグモ(新称)—モリヒメグモ属(新称)—，*Caviphantes pseudosaxetorum* WUNDERLICH, 1979キタホラヌカグモ（新称）］のほか，*Clubiona kunashirensis* MIKHAILOV, 1990クナシリフクログモ（新称）など興味深いクモが数種見いだされたので記載ないし解説を行った．

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